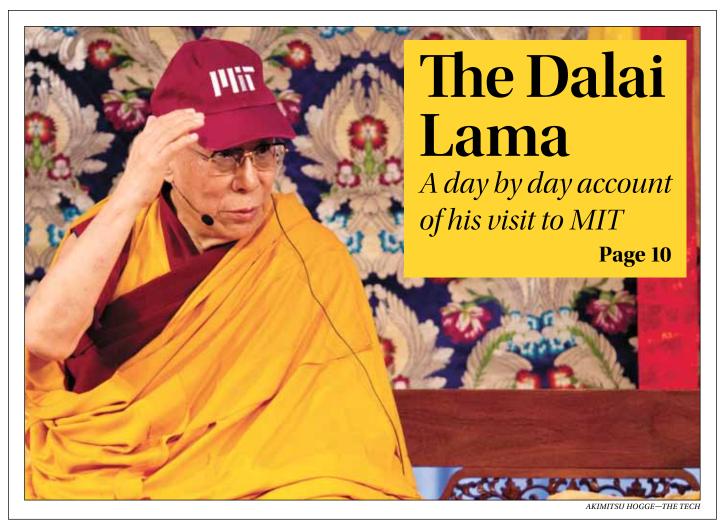
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WEATHER, p. 2 SAT: 75°F | 48°F Clear SUN: 62°F | 46°F

Volume 132, Number 46 Friday, October 19, 2012



EdX announces partnership with Cengage

Educational services company will provide content to edX students

By Leon Lin STAFF REPORTER

On Wednesday edX announced a new collaboration with Cengage Learning, a large Connecticut-based provider of educational content and software. The company will both supply content to edX and work with edX to improve pedagogy.

Cengage publishes Principles of Biostatistics, the textbook for one of Harvard's edX classes, Health in Numbers: Quantitative Methods in Clinical & Public Health Research. Harvard School of Public Health professor Marcello Pagano, a co-instructor of the class, is also one of the co-authors of the text. The book, like the rest of edX's content, will be free for students.

'EdX students worldwide will benefit from both Professor Pagano's in-class lectures and his classic Cengage Learning textbook in biostatics [sic]," edX president Anant Agarwal said in a press release.

Over 370,000 people have registered on edX, according Director of Communications Dan O'Connell, Some people enroll

EdX and Cengage, Page 17

Task force approves of Kendall plan Faculty demand

comprehensive plan before building begins

By John A. Hawkinson

A faculty task force has recommended to the Provost that MIT proceed with its east campus (Kendall Square) rezoning proposal, but to consider the land as "an extremely precious resource" and to drive the process with a new comprehensive design plan, rather than commercial interests. The report was discussed at Wednesday's faculty meeting and released later that day.

Provost Chris A. Kaiser PhD '87, in his remarks at the meeting, characterized the report as "highly thoughtful and very clearly written."

The report appears sharply critical of the strategy executed by the MIT Investment Management Company to date, though MITIMCo disagrees. The report's recommendations are "strategically aligned" with MITIMCo's existing plans, according to Steven C. Marsh, managing director of real estate.

The report was presented at the sparsely-attended faculty meeting by Samuel M. Allen PhD '75, the faculty chair and a member of the eightperson faculty committee. The committee was chaired by Thomas A. Kochan, who was the prior faculty chair.

The report enumerates eight findings of the committee, three conclusions, and five design constraints going forward. See sidebar, p. 13.

Need for academic use

The report's criticism of MITIMCo's past approach seems stark. From the report:

"This area of land is also the last piece of undeveloped, contiguous campus space lying between

Kendall plan, Page 13

4.0 quake takes New England by surprise

A 4.0-magnitude earthquake shook southern Maine at approximately 7:12 p.m. on Tuesday, resulting in a shockwave felt all across New England. The quake, which was downgraded from its initial estimated magnitude of 4.6, caused no apparent injuries or property damage. Cambridge residents reported experiencing weak shaking.

At MIT, the dormitory mailing lists were abuzz with expressions of surprise, nonchalance, and momentary confusion, including one thread claiming that "Next House is made of jello." A few more incredulous students sought confirmation from others that the shaking was indeed the result of an earthquake.

The U.S. Geological Survey reports that the quake was felt most strongly in Maine, Massachusetts, and New Hampshire. Tremors were also felt in other parts of New England, as well as in parts of New Jersey, New York, and even southern Quebec, Canada. East Coast earthquakes - particularly ones in New England — are rarer than their West Coast counterparts but can be felt up to 10 times farther away due to the solidity of the region's underground rock.

This was the first major quake to felt in the area since August of last year when a 5.8-magnitude tremor centered in Virginia shook Boston — the East Coast's most powerful earthquake in 67 years.

—Stephen Suen

IN SHORT

The Head of the Charles starts tomorrow! Support MIT crew in the largest 2-day regatta in the world!

Applications for Institute Committees are now open! Email ua-nomcomm@mit. edu to apply.

Join the MIT-wide "Gangnam Style" flashmob this Sunday at 2 p.m. in Killian Court!

Energy Night is tonight at the MIT Museum, 5-8:30 p.m. Come learn about cutting-edge energy research the Institute is working on!

Graduate student Allison Tovo-Dwyer passes away

Third-year Department of Chemistry graduate student Allison Tovo-Dwyer passed away last Thursday, after a yearlong battle with cancer. She was 25 years old.

While at MIT, Tovo-Dwyer worked under the supervision of Professor Arup K. Chakraborty. Her research, in collaboration with clinicians, focused on using etatistical physics to under. stand the human immune response to HIV infections and on harnessing this information to help design a potent vaccine.

"Allison was a brilliant woman who would have developed into a great scientist," Chakraborty said. "Her first publication was accepted into a top journal just a week before she passed away. I wasn't able to tell her in person due to her hospitalization, but her mom told me the news bought a smile to her face. My research group and I will miss her very much."

Tovo-Dwyer hailed from Minnesota and completed her undergraduate degree in chemistry at the University of Chicago. A private memorial service in Chicago will take this Saturday, Oct. 20. Expressions of condolence can be brought to Department of Chemistry Graduate Administrator Jennifer Weisman in Room 2-204 by the end of the day Monday, and will be delivered to the family.

"Allison consistently exhibited kindness and warmth to those around her," said Christine Ortiz, dean of graduate education in an email to the Department of Chemistry. "Our deepest sympathies are with Allison's family, friends, and the faculty and staff who knew her.'

Members of the MIT community who feel af-



SOURCE: FACEBOOK

fected by the death are encouraged to contact MIT Mental Health Services at 617-253-2916. The Office of the Dean of Graduate Education can also be reached at 617-253-4860.

—Deborah Chen

CONSTRUCTING **PUBLIC SPACES**

A closer look at the Kerf Pavilion. ARTS, p. 8

INTEGRATING EDX INTO MIT

A vision for the classroom of tomorrow. OPINION, p. 4

THE FINAL FRONTIER

A visual guide to the universe. ARTS, p. 8



REOPENING **PANDORA'S BOX**

Keith Yost delves into Borderlands 2.

ARTS, p. 9

PEDAL TO THE MEDAL

MIT cycling takes gold in DII. SPORTS, p. 19

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Suspect in Benghazi attack, in plain sight, scoffs at US

BENGHAZI, Libya — Just days after President Barack Obama vowed to hunt down and bring to justice those responsible for the Sept. 11 attack on the U.S. diplomatic compound here, Ahmed Abu Khattala — one of those considered a ringleader - spent two leisurely hours Thursday evening at a luxury hotel full of journalists, relaxed in a red fez and sandals, sipping mango juice on a patio overlooking the Mediterranean and scoffing at the threats coming from both the American and Libyan governments.

Libya's fledgling national army was a "national chicken," Abu Khattala said, using an Arabic rhyme. Asked who should take responsibility for apprehending the mission's attackers, he chuckled at the weakness of the Libyan authorities. And he accused U.S. leaders of "playing with the emotions of the American people" and "using the consulate attack just to gather votes for their elections.'

Abu Khattala's defiance - no authority has even questioned him about the attack, he said, and he has no plans to go into hiding — offered insight into the shadowy landscape of the self-formed militias that have come to constitute the only source of social order in Libya since the fall of Moammar

—David D. Kirkpatrick, The New York Times

India opens inquiry into Wal-Mart

MUMBAI, India — Indian regulators are investigating allegations that Wal-Mart Stores violated rules restricting foreign investment in the country's fast-growing retailing industry.

The regulators are looking into a nearly \$100 million investment Wal-Mart Stores made in an Indian company, Bharti Retail, which operates more than 200 supermarkets across India, at a time when India restricted investments in the retailing industry. The investment was made in the form of debentures that could be converted into equity.

India had long prohibited foreign equity investments in retailing chains that sell more than one brand of products, known here as multibrand retail, but it recently changed those rules to allow foreign companies to own up to 51 percent of such stores. That policy change has faced stiff resistance from opposition political parties and even allies of the governing coalition.

Wal-Mart, which is in the midst of an investigation involving bribery allegations at its Mexican subsidiary, has long wanted to expand into India, where small, family-owned stores dominate a retail sales market worth about \$500 billion.

-Vikas Bajaj, The New York Times

Seizure of ship from Argentina forces shake-up

BUENOS AIRES, Argentina — Argentina's military intelligence director resigned Thursday, the latest casualty in a dispute between Argentina and a U.S. hedge fund over ownership of an Argentine navy training vessel that has been impounded at a port in West Africa.

The departure of Maria Lourdes Puente Olivera, a civilian and the first woman to lead the intelligence agency, comes two days after the resignation of Argentina's top navy admiral and the suspension of two other highly placed navy officials. Those events came amid a Defense Ministry investigation into a lastminute change to the vessel's itinerary, which had it stop in Ghana rather than Nigeria, as originally planned.

The Libertad, a three-mast tall ship with 330 navy cadets and crew aboard, was seized at Tema, an industrial port east of Ghana's capital, Accra, on Oct. 2 through a court order obtained by NML Capital, a holdout creditor from Argentina's default a decade ago that says it is owed more than \$370 million.

-Emily Schmall, The New York Times

Afghan officials spar over 2014 vote

By Matthew Rosenberg THE NEW YORK TIMES

KABUL, Afghanistan — Nearly two years before Afghanistan's presidential election, a brewing dispute between President Hamid Karzai and Afghan lawmakers over the handling of voter fraud complaints is raising questions about whether a credible election can be held — and, by extension, future international support for the country's financially ailing government.

U.S. and European diplomats are already trying to set the bar as low as possible for the 2014 election. U.S. officials talk of the need for a vote that is merely "acceptable," purposefully avoiding the usual admonition of a "free-and-fair" election — a goal they say is too lofty given Afghanistan's situation.

Yet U.N. officials and Western diplomats fear the coming vote might not meet even that low standard if Karzai and the Parliament cannot agree on new laws for the election, leaving it to be held under the same rules that yielded fraud and political crisis after the 2009

A similar crisis in 2014 would probably prove far more dangerous. It would play out just as the U.S.-led combat mission was coming to an end, raising the specter of a charged political showdown among progovernment factions - many of them drawn along ethnic lines and some well-armed — at the precise $\,$ moment when the Afghan state needed to present a united front against the Taliban.

The failure to hold a credible election would also further test the patience of the international community, which pays most of Afghanistan's bills and is expected to cover the hundreds of millions of dollars it will cost to hold the election.

"If there's a question mark over the election, it might affect future international support for the Afghan government," said Nicholas Haysom, the deputy special representative at the U.N. Mission in Afghanistan.

Haysom and Western diplomats in Kabul said they are genuinely neutral on the current dispute, which appropriately enough

is about whether foreign experts should help adjudicate accusations of electoral fraud. A measure approved recently in Parliament's lower house mandates that two foreign experts chosen by the United Nations sit on the country's fiveperson Election Complaints Commission, which is supposed to adjudicate fraud accusations.

Speaking to reporters Thursday, however, Karzai was blunt in his opposition to the presence of any foreigners on the complaints commission. "Their interference in the election process is a violation of Afghanistan's national sovereignty."

He then emphasized his point with a tart reference to the coming U.S. election: "Afghanistan is not interfering in their election, and we are hoping they don't interfere in our election."

Later, Aimal Faizi, a spokesman for the president, said Karzai would veto the measure if it passed the upper house with the provision for foreign experts. "We are capable of organizing free and fair elections," he said in a brief telephone interview.

Turkey & Egypt seek alliance amid upheaval of Arab Spring

By Tim Arango

THE NEW YORK TIMES

ISTANBUL — With war on Turkey's borders, and political and economic troubles in Egypt, the two countries have turned to each other for support, looking to build an alliance that could represent a significant geopolitical shift in the Middle East prompted by the Arab Spring, uniting two countries with regional ambitions each headed by parties with roots in political

Egypt and Turkey are considering plans to lift visa restrictions and recently completed joint naval exercises in the Mediterranean Sea. Turkey has offered a host of measures to bolster Egypt's economy, including a \$2 billion aid package. There is even talk of Turkey's helping Egypt to restore its Ottoman-era buildings. A wider-ranging partnership is expected to be announced in the coming weeks when the Turkish prime minister, Recep Tayyip Erdogan, whose party shares an Islamist pedigree with Egypt's leadership, goes to Cairo.

The emerging alliance springs from the earthquake that shook the regional order when Egypt's president, Hosni Mubarak, was ousted and from the civil war in

Although Egypt's position had long been compromised by its economic frailty and failing diplomatic might, it remained an anchor of the region in an alliance with Saudi Arabia and Jordan. Egypt often tangled with Turkey as both vied for the hearts and minds of the Arab street, with Turkey increasingly presenting itself as the champion of the Palestinians, often to Mubarak's embarrassment.

And Turkey's close ties with Syria have been severed, undermining its political and economic links to the Arab world.

As a result, each country seems to need the other in an alliance that could shape the region for decades to come and help it emerge from the tumult of Arab revolutions.

"Apparently now Egypt is Turkey's closest partner in the Middle East," said Gamal Soltan, a professor of political science at the American University in Cairo, who added that one impetus for the partnership that is taking shape between the two countries was Turkey's loss of "a major partner in Syria."

Turkey is trying to firm up its influence in the region at a time of war and revolution by taking with Egypt some of the same measures it used in its opening with Syria just a few years ago, which became the cornerstone of a foreign policy oriented toward the Middle East, rather than Europe.

WEATHER

Rain to give way to warmth

By Vince Agard

STAFF METEOROLOGIST

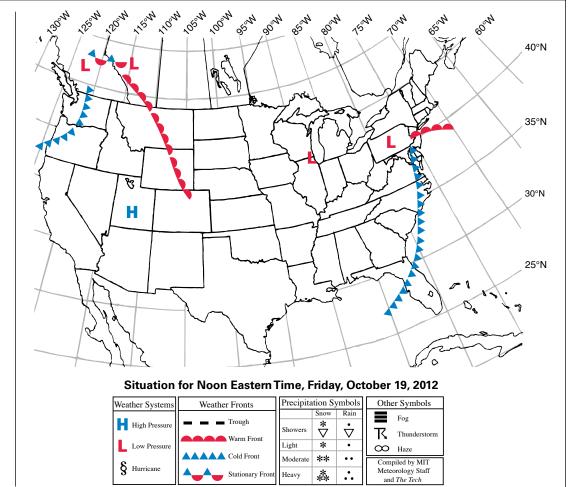
A large low pressure system that has been responsible for high winds across the northern Plains and Midwestern United States earlier this week will bring rainy weather to start the weekend in the Boston area. Showers will begin in the early morning hours today and persist throughout the day, possibly becoming heavy at times as the storm persists into the evening.

Rain will taper off tomorrow morning, making way for sunshine and unseasonably warm temperatures, as a southern wind brings warm air over the area. The mild weather will be short-lived, however, as the passage of a cold front in the early afternoon will knock the temperature down considerably.

A more settled weather pattern will take hold on Sunday, with sunshine and highs in the low 60s °F.

Extended Forecast

Today: Rain, high 68°F (20°C). Winds SE at 12-20 mph. **Tonight:** Rain, low 61°F (16°C). Winds S at 10-15 mph. Tomorrow: Rain ending in the morning, then partly sunny. High 75°F (24°C), with winds becoming W at 10-15 mph. Sunday: Sunny, highs in the low 60s °F (17°C).



French-German disputes could mar European summit

By James Kanter and Stephen Castle

THE NEW YORK TIMES

BRUSSELS — European Union leaders sought Thursday to overcome sharp differences over how to improve supervision of their banks and budgets, at the start of a two-day summit meeting aimed at resolving the eurozone crisis.

But with market pressure on their single currency easing, at least for now, there were already signs that leaders could return to a familiar pattern of bickering, which could delay agreed-to changes, like creating a single regulator for all eurozone banks.

One of the issues overhanging the meeting is a dispute between France and Germany on whether to create such a supervisor by January, as the European Commission has proposed. Paris is pushing to meet that deadline.

French leaders have also pressed for speedy adoption of European legislation to tighten budget discipline across the eurozone, as well as measures to pool at least

some of the eurozone countries'

Germany, by contrast, has emphasized a more cautious approach and is seeking even greater powers of intervention to enable the most solvent countries to enforce budgetary discipline in the

The French-German dispute matters. Agreement between governments in Paris and Berlin is seen as vital to any steps toward further integration in Europe and for ensuring the survival of the common currency for the 17 EU countries that use it.

Ahead of the Brussels meeting, Chancellor Angela Merkel of Germany signaled the need for caution and a much grander vision for how to secure the longevity of the

"We are of the opinion — and I speak for the whole German government on this - that we could go a step further by giving Europe real rights of intervention in national budgets," Merkel told lawmakers in Berlin on Thursday.

That earned a tart riposte from

President François Hollande of France, who said that budget intervention "is not on the agenda," as he arrived at the meeting.

"The only decision that will be taken is to set up a banking union by the end of the year and especially the banking supervision," Hollande said.

The creation of a single banking regulator for the euro area was supposed to be a relatively straightforward matter after leaders agreed at a summit meeting in late June to put all lenders in the region under the aegis of the European Central Bank.

The idea was eagerly supported by Ireland, Italy and Spain, because it would be a precursor to letting weak banks in those countries tap Europe's new bailout fund directly, without loading more debt on those countries' governments.

Since June, though, Germany has balked at proposals by the European Commission and France to put all 6,000 lenders in eurozone countries under the supervision of the regulator in a system that would be phased in starting Jan. 1.

Drilling payments cause a dispute in Pennsylvania

By Jon Hurdle

PHILADELPHIA — Four Pennsylvania townships are challenging a state regulator's decision to withhold their share of proceeds from a statewide levy on drilling by the booming natural gas industry there.

The townships, in a heavily drilled area of southwestern Pennsylvania, were excluded from a list of 35 counties and 1,485 municipalities that will receive a total of \$108.7 million from a new "impact fee" charged to energy companies to help compensate for the effects of gas drilling on local communities.

The payout, the first under a new state law, was announced by Gov. Tom Corbett on Monday, two days before a Pennsylvania Supreme Court hearing on whether the law can pre-empt local control over where gas companies can put installations like drilling pads, compressor stations or wastewater

The townships are among a group of plaintiffs that won a ruling from a state appeals court in July that the pre-emption of local ordinances by the new law is unconstitutional and unenforceable. The Corbett administration appealed the ruling to the State Supreme Court, which heard oral arguments on the case Wednesday.

The natural gas industry, which has drilled thousands of wells into the Marcellus Shale rock formation since 2008, argues that it should not have to deal with a patchwork of local laws that dictate where it can build drilling rigs and other infrastructure, and that a statewide regulation standard is necessary to maximize output from one of the most productive U.S. shale gas

The townships — Cecil, Robinson, South Fayette and Mount Pleasant — are scheduled to receive a combined \$986,000 that could be used for projects like road repair, sewer construction or inspection of

But the Pennsylvania Public Utility Commission, which administers the impact fee, said it was withholding payment to the townships until it resolved five "requests for review" that were filed by four local landowners and by Range Resources, a Texas drilling company that has been active in Pennsylvania.

Jennifer Kocher, a commission spokeswoman, said the payments were not being held because of the legal case.

This has nothing to do with the pending court proceedings but rather the proceedings before the PUC where local residents and producers have requested a review of the municipalities' ordinances," Kocher wrote in an email.

One of the landowners, Tony Pawlosky, said in a filing with the commission that Mount Pleasant Township should not receive impact fee funds of \$511,855 until it brings its zoning ordinance into compliance with the law.

Second Appeals Court rules against Federal Marriage Act

By Timothy Williams

THE NEW YORK TIMES

A federal appeals court in Manhattan ruled Thursday that the federal statute defining marriage as a union between a man and a woman unlawfully discriminates against same-sex married couples by denying them equal federal benefits.

The court, the U.S. Court of Appeals for the Second Circuit, is the second federal appeals court to reject a central portion of the federal law, the Defense of Marriage Act, following the U.S. Court of Appeals for the First Circuit, in Boston, which handed down its ruling in

The Supreme Court may take up the issue as soon as the current

Two of the three judges on the Manhattan court ruled in favor of Edith Windsor, an 83-year-old woman whose case challenged the

1996 statute, saying it violated the Constitution's equal-protection clause because it recognizes the marriages of heterosexual couples but not those of same-sex couples, even though New York state law makes no such distinction.

Windsor, who filed the lawsuit in November 2010, married her longtime partner, Thea Spyer, in Canada in 2007. The two had been together for 44 years.

Although the marriage was recognized in New York, when Spyer died in 2009, Windsor was not able to claim a deduction for a federal estate tax that is available for the surviving partner of a marriage between heterosexuals. Windsor, who had been the sole beneficiary of Spyer's estate, was forced to pay \$363,053 in estate taxes. When she requested a refund, the Internal Revenue Service rejected her claim, citing federal marriage law.

Judge Dennis Jacobs, who wrote the majority opinion, said the federal law was "not related to an important government interest," concluding that "homosexuals are not in a position to adequately protect themselves from the discriminatory wishes of the majoritarian public."

The statute, approved by Congress and signed by President Bill Clinton, denies recognition of same-sex marriages by the federal government.

In the intervening years, however, several states, including New York, have approved samesex marriage, though others have passed laws banning it.

In February 2011, the Obama administration determined that the provision of the law that prevents the federal government from recognizing same-sex marriages was unconstitutional, and President Barack Obama said he had directed the Department of Justice not to defend that aspect of the law

Polls show leads for Obama in **Iowa and Wisconsin**

President Barack Obama has significant leads over Mitt Romney in Iowa and Wisconsin, two critical battleground states that could serve as a firewall for the president against a late surge by his rival in other places, according to new NBC News/Wall Street Journal/Marist polls released Thursday evening.

In Iowa, Obama leads by eight percentage points in a state he won four years ago by a slightly larger margin, according to the poll. In Wisconsin, the home of Rep. Paul D. Ryan, Romney's running mate, the president has a six-point lead.

Both polls were taken Monday, Tuesday and Wednesday of this week, spanning the period just before and just after the second presidential debate, in which Obama turned in an aggressive performance

In both polls, Obama leads Romney by 19 percentage points among women, a key constituency that both campaigns are courting with a renewed intensity in the last 19 days of the presidential

In Iowa, about a third of the state's electorate has already voted, and the poll suggests that Obama has dominated that vote. In Wisconsin, about 15 percent of the voters have already cast their

The polls were conducted among 1,137 likely voters in Iowa and 1,013 likely voters in Wisconsin. Each poll has a margin of sampling error of plus or minus three percentage points.

-Michael D. Shear, The New York Times

Google shares fall on disappointing earnings

SAN FRANCISCO — Google released a disappointing earnings report Thursday that sent its stock price plummeting and reflected the challenges the company faces as it tries to make money in a

For Google, mobile has been a mixed blessing. Smartphones and tablets are bringing in new users — and the advertisers that follow them — but it makes less money on mobile ads than on desktop ads. The company reported that the price advertisers paid per click on an ad — referred to as cost per click — decreased 15 percent from the same period last year. This was the fourth consecutive quarter that number has declined, even as the number of paid clicks on ads climbed 33 percent, largely because people see Google ads on their phones on lunch break or in bed, not just when they are in front of a computer.

The challenges of making money in a mobile world were not the only reason that Google's net revenue and earnings per share fell significantly below analysts' expectations. Motorola Mobility, the ailing cellphone maker it recently acquired, is bleeding money.

Still, the report showed that Google was grappling with the mobile revenue riddle. And Google is not alone. The problem is also stumping technology companies like Facebook, Apple, and Microsoft. Just as the Web upended traditional business models for print publications more than a decade ago, now mobile is disrupting

-Claire Cain Miller, The New York Times

Twitter blocks Germans' access to neo-Nazis' account

BERLIN — Twitter waded into potentially perilous territory Thursday when it blocked users in Germany from access to the account of a neo-Nazi group that is banned by the government here.

The move was the first time Twitter acted on a policy known as "country-withheld content," announced in January, in which it will block an account at the request of a government. But the company cracked open the gates to a complex new era in which it will increasingly have to referee legal challenges to the deluge of posts that has made the site so popular.

The company said the goal was to balance freedom of expression with compliance with local laws. "Never want to withhold content; good to have tools to do it narrowly & transparently," Alexander Macgillivray, the company's chief lawyer, wrote on

A German spokesman for the company confirmed in an email that it was the first time the policy had been used, although Twitter does not as a matter of policy announce government requests to block an account. In a "transparency report" issued this year, the company said it had received six such requests but had not, for easons it did not specify, acted upon them

—Nicĥolas Kulish, The New York Times

Iron-dumping experiment in Pacific alarms marine experts

A California businessman chartered a fishing boat in July, loaded it with iron dust and cruised through Pacific waters off western Canada, spewing 100 tons of his cargo into the sea in an ecological experiment that has outraged scientists and govern-

The entrepreneur, whose foray only came to light this week, even duped the National Oceanic and Atmospheric Administration in the United States, which lent him ocean-monitoring buoys for the project.

Canada's environment ministry says it is investigating the experiment, which was carried out with no government or scientific oversight. A spokesman said the ministry had warned the venture in advance that its plan would violate international treaties.

Marine scientists and other experts have assailed the experiment as unscientific, irresponsible, and probably in violation of international agreements intended to prevent tampering with ocean ecosystems under the guise of trying to fight the effects of climate change.

While the environmental impact of the foray could well prove minimal, scientists said, it raises the specter of what they have long feared: rogue field experiments that could eventually put the

—Henry Fountain, The New York Times



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MITx and the classroom of tomorrow

A vision for the future of edX and MIT

By Sam Shames
STAFF COLUMNIST

In recent weeks, there has been much energy and enthusiasm about both MITx and its multi-institutional counter part edX. Listening to the debate over how MITx can be integrated into the residential experience, I am impressed by how much thought all affected parties have invested. We as a community are at a crossroads. We have been presented with an opportunity to substantially change what it means to receive a college education. This possibility excites me, but for others it may seem slightly frightening. Many people are concerned about what we may lose in the process of integrating online education into our current system. While these concerns are certainly valid, I am still optimistic. Rather than focus on how MITx might harm, I focus on how it can transform. What follows is my vision of how this transformation might play out.

One of the biggest concerns about MITx is how it may try to replace the traditional classroom. But rather than replace, MITx helps reinforce and supplement the traditional lecture format by allowing students to learn and the teacher to teach more effectively. With MITx, a student who is struggling and needs extra help can use the course material on MITx to review previous lectures and complete extra practice problems. Having the opportunity to see the same material again, but presented differently, will help these students grasp difficult concepts. At the same time, instant feedback shows students their progress and allows them to see what they have mastered. What's more exciting as a learner than watching yourself improve?

While helping students master course material, MITx helps professors and faculty measure exactly what their students have and have not learned. Providing this type of feedback allows for more focused and effective teaching. When professors

know exactly what a class does and does not understand, they can use class time more efficiently.

Not only would the integration of MITx improve the traditional classroom setting, but it would also empower students by giving them the resources they need to take control of their education. Currently, if a student is very excited about a subject and wants to study it, the only option they have is to read the textbook. Not only is this not a very effective way to learn, but it is about as common as turning in optional problem sets. MITx offers a better platform for enthusiastic students to explore the material at their own pace. It provides students with an unprecedented level of control of their education, a level of control that is sure to be welcomed by the self-sufficient learning community that is MIT.

edX provides students with a level of control that is sure to be welcomed by the selfsufficient learning community that is MIT.

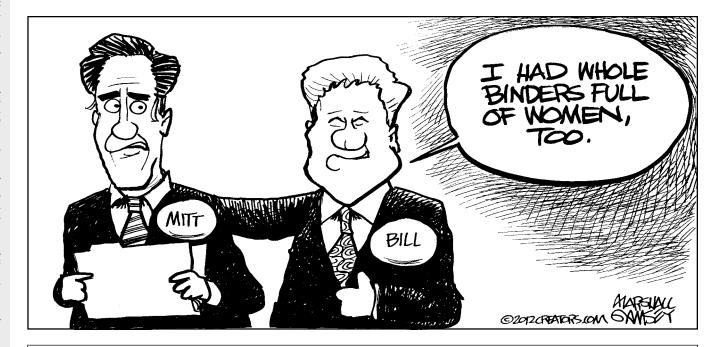
At the same time, learning through MITx allows students to engage course material in a completely new way. In the future, courses on MITx could be organized both by department and by topic. For example, one section of MITx could be thermodynamics. Included in this section would be all the thermodynamics classes across majors. For the first time, a student could explore thermodynamics from a course 10, 3, and 2 perspective. Presenting the material in this format highlights the interdisciplinary nature of so much of what we learn, while also showcasing the connections between different fields.

When a group of independent learners

can use MITx in this manor, they will be able to reinvent their residential education and delve into a project-based curriculum. These students will use MITx to learn everything that they have received in a traditional lecture and during class time they will work on interdisciplinary projects, bringing the online to live material through hands-on experience. Working together with faculty, these students get exposed to applications of what they have learned and have yet another chance to be the driver of their own education. Of course, this is only possibly when students are able to get all the background skills needed to complete a project online.

What excites me most is that many projects will be inherently interdisciplinary and will unite students across departments. Furthermore, if MITx is organized by interdisciplinary topics, it will be easier for students to learn the relevant information for their project, even when they need information outside their department. For example, a student who wants to build a biodiesel processor for a project would need to understandhemistry, chemical engineering, mechanical engineering, electrical engineering, etc. With MITx, this student could map out a focused course of study across those departments and learn everything they need in order to complete their project. Never before have students had this much flexibility to choose their course of study.

The ideas I have presented are just some possibilities that excite me. Part of the beauty of MITx is its flexibility, as there are many more ways to integrate residential and online learning. MITx can enhance residential education, and encourage others to start innovating. Instead of wasting energy worrying about how MITx can harm MIT, we should let our imaginations run wild. If we dream about how MITx can transform and improve our experience, then I know we can invent the education of tomorrow.



CORRECTIONS

A front page photo of Walter Lewin published last Friday incorrectly said that his lecture took place on Thursday. It took place on Tuesday.

Tuesday's article about CityDays listed only one winner in the sports category for this year event. The two winners were the Women's Swimming and Diving team and the Women's Softball team.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Aislyn Schalck, Editor in Chief Jessica J. Pourian, Managing Editor Connor Kirschbaum, Executive Editor Ethan A. Solomon, and Opinion Editor Andy Liang.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial

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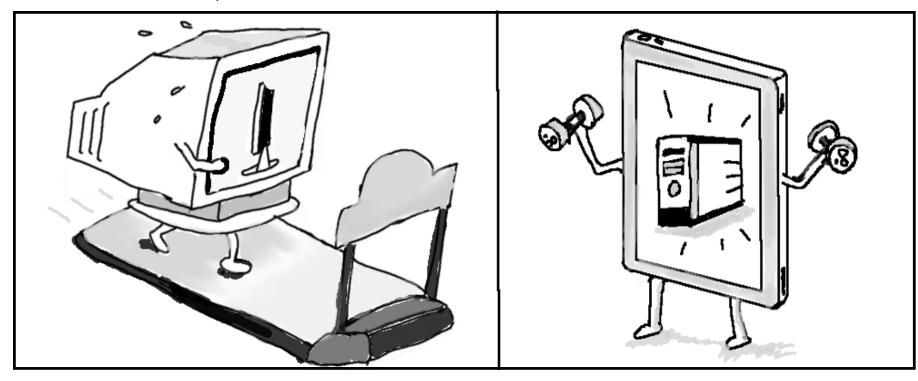
 $\label{eq:Guest columns} \textbf{Guest columns} \ \text{are opinion articles submitted by members} \\ \text{of the MIT or local community}.$

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Friday, October 19, 2012

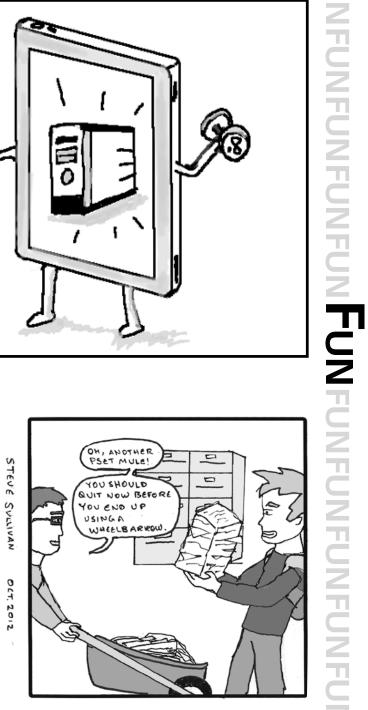
Beaver Tails by Ranbel Sun



Uppercut by Steven Sullivan







WE DO CALCULUS BY PARILE POWELL Oct 1/2 V=IR RESIST ME IF YOU CAN, CALCULUS BY AND I STUDY AND I STUDY ELECTRICAL ROBOT-GIRL. ROBOT-GIRL.

Sudoku

Solution, page 16

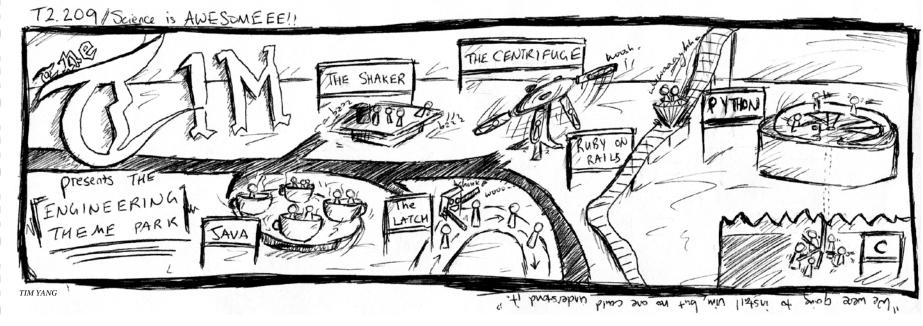
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Techdoku

Solution, page 16

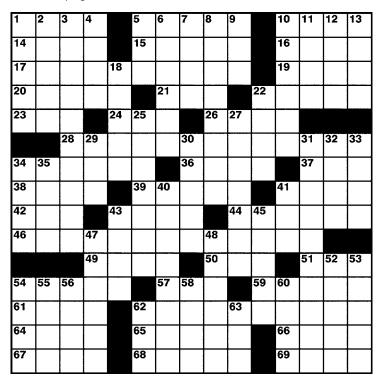
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6 THE TECH



Elementary by David W. Cromer

Solution, page 16



ACROSS

- 1 Downloads for tablets
- 5 Dine on grass
- 10 Marvel Comics superheroes
- 14 Ostrich cousin
- 15 Madame Curie
- 16 Walesa, for one
- 17 '50s tune heard in Back to the Future
- 19 Stood up
- 20 Rock singer Mann
- 21 Nautical record
- 22 Pillow material 23 Monterrey Mrs.
- 24 Sgt., for instance
- 26 Cola feature
- 28 Battlefield command 34 Ankle woe
- 36 Tower Heist villain

- 37 Pool stick
- 38 Zodiac beast
- 39 Needing a late pass
- 41 Clumsy boat
- 42 Sinuous letter
- 43 Legendary pirate 44 Affectionate gesture
- 46 Swamp snake
- 49 Aerobatic maneuver
- 50 Rocky III villain
- 51 __ Mahal
- 54 Socially insensitive, perhaps 57 Export of India
- 59 Treat badly
- 61 Operatic performance
- 62 Nike shoes
- 64 Hapless victims
- 66 GPS calculations
- 65 PBS acknowledgment

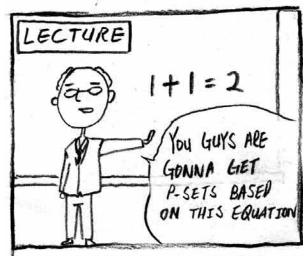
- 67 Furthermore
- 68 Something boring, so to speak
- 69 Insignificant

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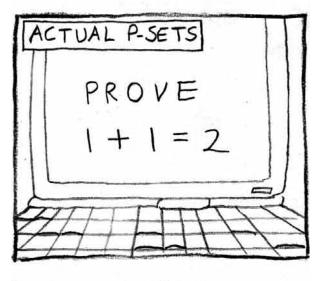
- 1 Sectors
- 2 Rock singer Liz
- 3 Arctic drilling challenge
- 4 Overfill
- 5 ABC early show
- 6 Needed filling up 7 Jason's ship
- 8 Follies producer
- 9 Finless fish
- 10 The \$10 million awarded to SpaceShipOne
- 11 Frame of mind
- 12 If not
- 13 __-do-well
- 18 Artist Matisse
- 22 Old Testament book
- 25 Euro fraction, in Spain
- 27 Race-sanctioning body
- 29 Scottish form of John
- 30 "Creation" starts with it
- 31 Play up
- 32 Twosomes
- 33 Evergreen trees
- 34 Large quantity
- 35 Galileo's hometown
- 40 Animal shelter transaction
- 41 __ Lanka
- 43 McDonald's founder
- 45 "When You Wish Upon _
- 47 City on the Rio Grande
- 48 Basic piano scale
- 52 Buffett in Too Big to Fail 53 Reverend Jackson
- 54 Launching agency
- 55 Vocal
- 56 Just beats
- 58 Inventor Rubik
- 60 Real estate abbr.
- 62 Words from our sponsor
- 63 Mined-over matter

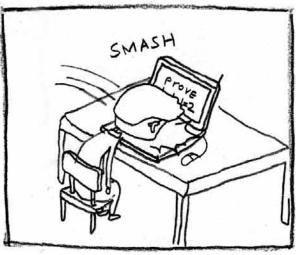
SKETCHY by Dolyun Lee

- REALITY OF P-SETS

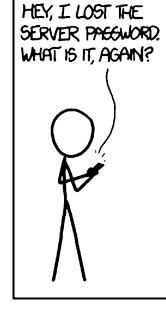








[xkcd 1121] Identity by Randall Munroe



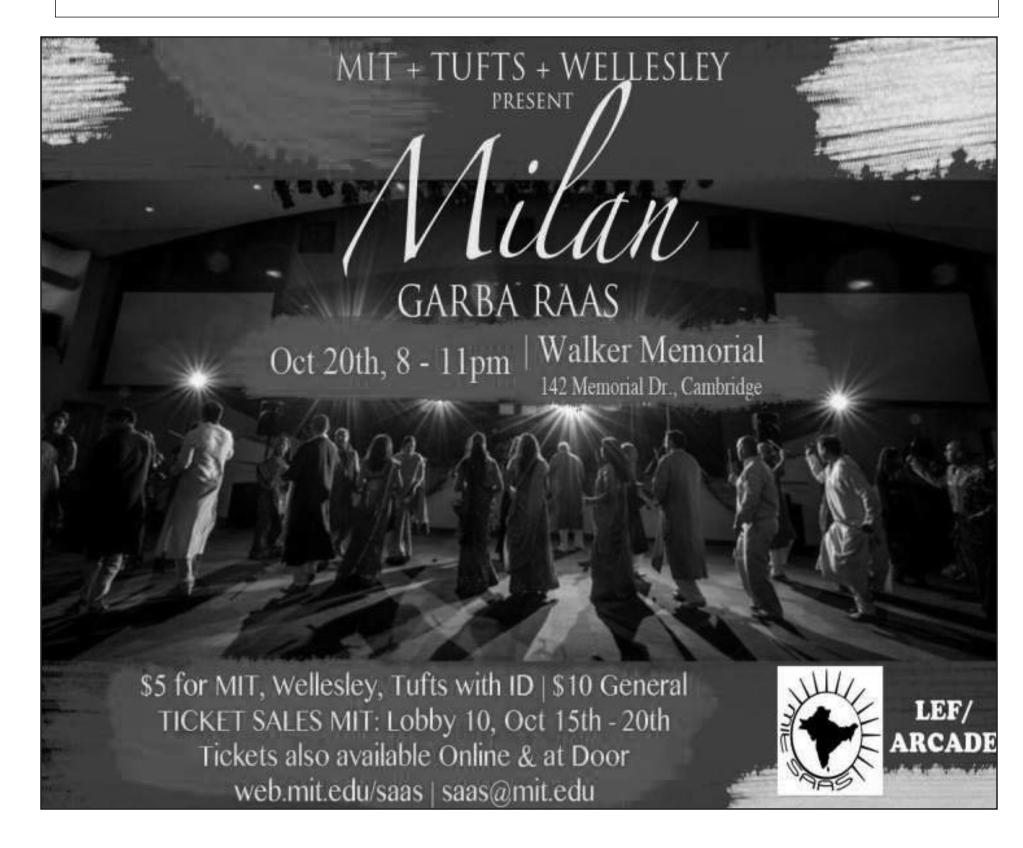




to constantly bring up how cool it is that birds are dinosaurs and you'll be set. Not sure why I just taught everyone to flawlessly impersonate me to pretty much anyone I know. Just remember

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ARCHITECTURE@MIT

More than objects

Pavilion project tackles smart design and construction for the future

By Jenny Xie

STAFF WRITER

The Kerf Pavilion, unveiled near the Green Building in the beginning of July, has piqued many curious minds on campus. Here, team members Tyler Crain, Brian Hoffer, Chris Mackey, and Dave Miranowski discuss the significance and motivations of their project.

The Tech: What is the concept behind this project?

Tyler Crain: We were given the task to design a temporary pavilion structure that would address an architectural fabrication problem in a new way. When we sat down and discussed ideas, we agreed that it should be something that would generate some physical interaction with people, and that we should work with a traditional material in a new production method. In the fabrication process of furniture and other small-scale products, techniques such as vacuum forming, steaming, lamination and mold-making are common. We were looking at simpler, less labor-intensive ways of forming this natural composite. Kerfing is a common technique for bending plywood that has been used in many industries for years. It involves the removal of material at points where a radius is desired (typically run over a table saw with a shallow depth). We were able to utilize tools that would scribe precisely calibrated radial dash patterns in a way that could convert flat sheets into something spatial and regain strength through the assembly.

TT: From conception to final product, can you estimate how many hours the team spent on the project?

TC: Oh, plenty... My rough, ballpark estimate is just over 1000 hours with all four members combined.

TT: Why is the Kerf Pavilion unlike any other space on campus? What was

your goal for how the community should experience it?

TC: I think our goal of how people should use it is exactly how people are using it. Perhaps sometimes they are not quite sure what it is or why it is there, but in the end, they're naturally going to sit on it, play board games on it, eat lunch, read, and climb on it (some neglect to read the sign). I think that line of dirt in the otherwise grassy courtyard can say a lot about the project's value. As for comparing it to other spaces on campus, I would simply say that it is a much more intimate, quiet moment within a vast majority of much larger, louder spaces on campus.

The four members of the group spent over 1000 hours putting the pavilion together.

TT: What does the Kerf Pavilion mean for the future of design and construction?

TC: There is a very lively discussion in the architecture world regarding the future of digital fabrication, emergent qualities, and material/part intelligence. The ultimate goal I think is to remake the way we make things. As architects, we are responsible for an enormous amount of resource distribution and it is crucial that we get a little more intelligent about the way we design, manufacture, and construct.

Brian Hoffer: Beyond the specifics material and expressive qualities of wood, our pavilion suggests an alternative future. A future where more expressive designs are affordable and buildable because of CAD/CAM technologies.

Dave Miranowski: The Kerf Pavilion project taught our group an important lesson on



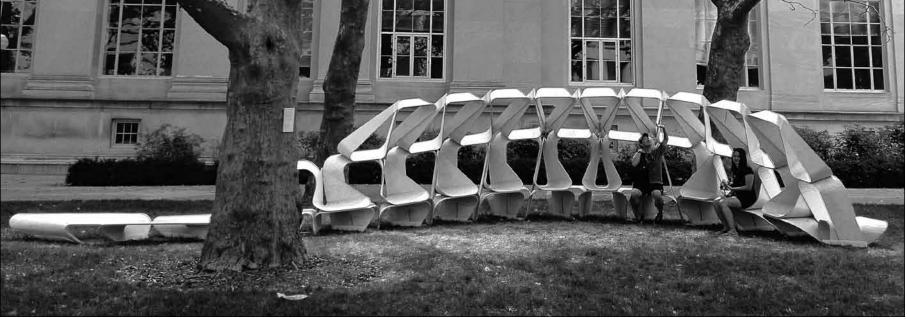
Using the technique of kerfing, Crain, Hoffer, Mackey, and Miranowski were able to convert flat sheets of plywood into more spatial forms.

how technology, specifically the CNC Mill, can allow you to engage more closely with physical materials, breaking down notions of a divide between digital processes and the material world. Due to the controlled precision of the mill, we were able to run through rigorous physical tests to see how different Kerfing patterns affected the bending capabilities of the Baltic Birch plywood we used.

Chris Mackey: We found through our experience that we are not quite at the point of software capability where we can make any change to the geometry of an object and have all of the boltholes and kerf lines

readjust. However, we found that we still had a lot of freedom and that we could make tweaks to, for example, the height of our structure or the width of seats and have all the final information output well. The ability to change and adapt the model to new criteria is a huge benefit that I think will only become more helpful in the future.

This is the first of a two-part Q&A series spotlighting two campus pavilion projects designed and built by MIT Master of Architecture students. Also be sure to head over to the blogs at techblogs.mit.edu for the extended interview!



The Kerf Pavilion creates spaces to sit and enjoy quieter moments on campus.

BRIAN HOFFE

BOOK REVIEW

A magnificent visual guide to the universe

Universe is a feast for the eyes and a treat for the mind of any sky lover

By Roberto Perez-Franco

STAFF WRITER

The new edition of *Universe* is nothing short of what it promises. Edited by Astronomer Royal Martin Rees and published for the Smithsonian Institution by DK, the book is a comprehensive, up-to-date, and visually mesmerizing guide to the cosmos and what we know of it. Its 500 pages are divided into three sections: astronomy in general, the cosmos, and the night sky.

The first section is mostly about the theory of physics, cosmology, and astronomy. It addresses basic questions about matter, energy, and space-time, presents current theories about the beginning and eventual end of the universe, and offers a primer on astronomy, to help the reader make sense of the changing appearances of the heavens. The graphics are breathtaking. A twopage plate titled "The scale of the universe"

conveys a visceral sense of the immensity of the cosmos through a sequence of nested zoom-ins from the earth to superclusters. A four-page plate titled "The Big Bang" shows the birth of the universe from the Plank era to the appearance of matter.

The second section is mostly known facts about the universe at different scales. Our Solar System comes first, starting with the Sun itself and working outwards towards the Oort Cloud. As always, images are just eye-popping: close-ups of spots on the Sun, the rings of Saturn, and the scars on Europa... you name it. Then comes our galaxy, in all its splendor, with jawdropping photos of nebulas and star clusters, and after that a section on what lies beyond the Milky Way: nearby galaxies, galaxy clusters and finally superclusters. There is not a single page without magnificent photos and a pile of scientific facts. It is hard to pick a favorite, but if I had to, it

would be the all-sky survey showing the distribution of galaxies as seen from Earth.

The third section is about the night sky: the constellations, their history, and skycharts a-plenty, for different latitudes and all seasons. The charts are carefully explained, rich in practical details for using them in backyard observation of the heavens with binoculars, a small telescope, or the naked eye.

This is the book I wish I had while growing up in the countryside of Panama, an equatorial country where most of both celestial hemispheres are visible. It would not only have replaced about a dozen other books I had to keep handy, but it would have given me information I would never had dreamed of having. Human understanding of the universe is expanding almost as fast as the thing itself. There is a revolution taking place in cosmology. The night sky is alive. No matter if you are a lay-

Universe: The
Definitive Visual
Guide
Edited by Martin Reese
Smithsonian/DK
September 2012

man or an advanced amateur astronomer, you will enjoy this book. As a person who has loved books and the night sky since I can remember, I wholeheartedly recommended *Universe*. It is a real treat for the curious mind and a feast for the eyes.

Friday, October 19, 2012



By Keith Yost
STAFF WRITER

If you played the original *Borderlands* and liked it enough to do a second playthrough, there is no point in reading this review past the next sentence. *Borderlands 2* is worth its cost at \$60; it has everything the original has, plus a real plot and an almost seamless co-op multiplayer experience.

If you haven't played *Borderlands*, then this review is a bit tricky. *Borderlands* 2 is a great game, but it belongs to a very specific genre, one that is very hit-or-miss with most gamers. Knowing whether the game is worth buying depends very much on understanding what sort of experience you're in for

Technically, the game is listed as a first-person-shooter, a genre which calls to mind *Halo* or *Call of Duty*. This is a very misleading label. *Borderlands 2* is more aptly described as an arsenal management simulator. Almost a third of your time playing will be spent with your nose buried in the inventory screen, comparing the stats on two shotguns to find out which is better. The other two thirds will be mostly spent grinding through hordes of enemies, hoping that their boss drops an even better shotgun. In this way, *Borderlands 2* shares more with dungeon crawler games like *Diablo 3* than it ever could share with the *Halo* series.

Many gamers out there find grinding and looting to be unbearably tedious and will simply not enjoy a game like *Borderlands 2*,

no matter how well done it is. They will be repulsed by the frequent demands to collect 10 MacGuffins or kill 10 moogles, and drop the game after a few hours of play. But if you are the type of person who lives for the ecstasy of loot, *Borderlands 2* is one of the finest examples of its genre ever created.

If you are the type of person who lives for the ecstasy of loot, Borderlands 2 is one of the finest examples of its genre ever created.

Choosing between options in your inventory of weapons - and to a lesser extent, the perks you get as you level up — is a constant challenge in constrained optimization. Borderlands 2 offers a dizzying variety of weapons: more than a half million can be randomly generated. Balancing between long-range and short-range capabilities, between burst damage and sustained damage, between ammo hogs and ammo sippers, and between accuracy and firepower - all while continuously upgrading to keep pace with challenges and maintaining access to the game's range of ways to exploit enemy's elemental weaknesses — is a serious challenge. Failing to kit your character with a balanced loadout often makes the difference in missions, sometimes turning an already grindy game into an extremely grindy, if not impossible game.

The combat is well done. Again, how the combat proceeds depends strongly on how you choose to equip and spec your character, but I found it both appropriately challenging and varied. These are traits that are very hard to find in a loot-and-grind style game, particularly when it comes to managing the game's difficulty. Usually, game developers seem to focus their balancing efforts on a single design-basis threat, making the game near impossible for a single player who skips a significant portion of the sidequests, or a complete walkover for larger, more completionist parties.

To boot, *Borderlands 2* brings to the table a set of qualities that fit well in virtually any genre. The well-voiced dialogue has a combination of dark, witty, juvenile, and self-referential humor. The game's celshaded graphical style is a welcome break from the usual grey and brown shooter style, while having the added benefit of reducing the jarring effect of texture pop-in. The plot is...well, nothing that would win a storytelling award, but certainly better than the first game which had virtually no plot. Finally, the game handles multiplayer coop with very few hiccups, making it easy to join in with friends online.

However, there are still some complaints to lodge. In multiplayer games, loot should be randomly distributed among the players **★★★☆**

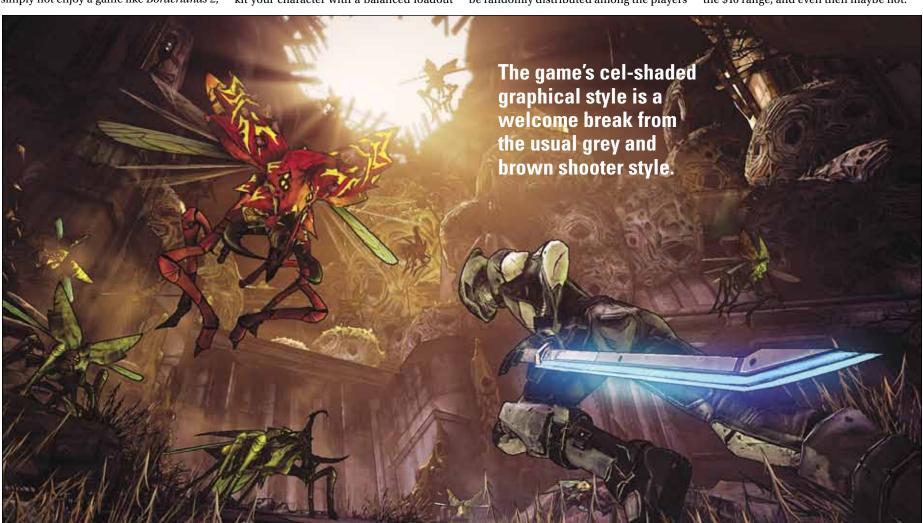
Borderlands 2

Developed by Gearbox Software

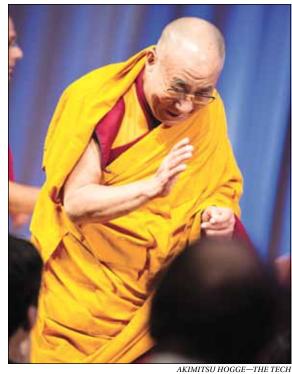
Published by 2K Games for Microsoft Windows, PlayStation 3, and Xbox 360

instead of going to whoever grabs it first as it does in *Borderlands 2*. Vehicle handling could stand improvement, as could some of the game's menus. And there is no good reason for why the game only allows one quest to be active on your heads-up-display at a time. None of these problems are deal breakers (except the loot distribution system in regards to playing the game with strangers).

For the most part, the question of whether or not you will like *Borderlands 2* depends on whether looting and grinding is something that thrills or bores you. For enthusiasts of the genre the game is one of the rare few that deserves its full price tag — at the very least, pick it up in a few months when the price has fallen to around \$40. For those turned off by grinding, even if first person shooters are your bag, *Borderlands 2* is a game only worth considering in the \$10 range, and even then maybe not.



MAGES COURTESY OF GEARBOX SOFTWAR



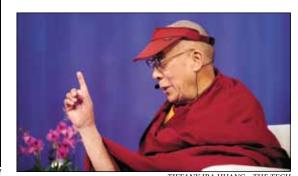
The Dalai Lama greets the crowd during his lecture "Stages of Meditation: Buddhism for the 21st Centu-



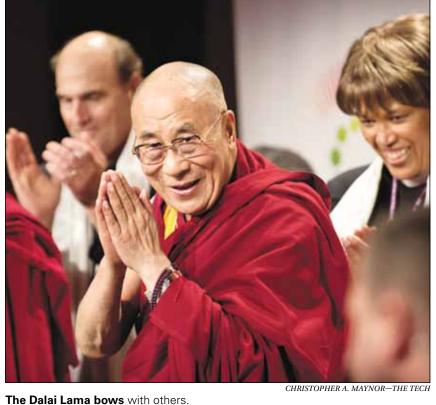
Adrian Anantawan, a renowned violinist born without a right hand, opens the event on Monday with a violin solo.

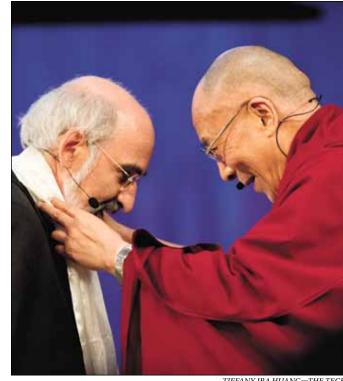


In his talk on Sunday, the Dalai Lama emphasized that people can practice compassion and live a happy life, with or without religion



The Dalai Lama talked about the need to care for our planet in the morning panel on Monday.





John D. Sterman, professor at Sloan School of Management, is thanked by the Dalai Lama and donned with a sash.

The Dalai Lama arrives Lama

This past Sunday, the Dalai Lama visited the Institute for three days of panel discussions with members of the MIT community. Here's a look at what happened during his stay.



VIDEO: GLOBAL SYSTEMS 2.0 — THE DALAI LAMA AND MIT PROFESSORS SPEAK ON ETHICS, ENVIRONMENT, AND THE

ASSOCIATE NEWS EDITOR

Tenzin Gyasto, the Dalai Lama and foremost figure in Tibetan Buddhism, recently concluded a visit to MIT, home to the Dalai Lama Center for Ethics and Transformative Values. The Center organized several events this week with the Dalai Lama and other prominent spiritual and academic figures.

The first event was held on Sunday, Oct. 14 at the Marriott Copley Place Hotel in Boston in a ballroom filled with nearly two thousand people. Following a performance by James Taylor and cellist Owen Young, the Dalai Lama spoke with Catholic monks Thomas Keating and David Steindl-Rast in a discussion entitled "Beyond Religion: Ethics, Values, and Wellbeing."

The Dalai Lama was generally ovial and made several jokes before taking his seat between the other panelists and donning a visor to protect his eyes from the bright stage lights. He spoke mostly in English with occasional help from a translator. His Holiness clarified the purpose of the talk, saying "[Ethics beyond religion] doesn't mean there's something better than religion, but values can use something separate from religious belief." His

main focus was the importance of compassion: "I want to show people compassion. If you have religious faith, great. Practice it. If not, still practice these values, and you will have happier days and months."

The Dalai Lama pointed out that to him, secularism does not imply anything negative about religion, but rather encourages respect for all religion. Since, he noted, even among professing believers, many people don't care very much about religion, it is necessary to educate people using common human experience or science.

bring change, "each person should think they can help make a happier world and start from the individual. Reverend Liz Walker moderated further discussion among the speakers following the Dalai Lama's

His recommendation was that to

David Stendl-Rast responded in agreement with the Dalai Lama's comments, noting, "Faith is basic human trust and is used differently in different religions."

Thomas Keating echoed the message of compassion, calling it "something desperately needed

"God draws people to himself," Keating said, "and religion is only

MONDAY

Sustainability, ethics and global systems

STAFF REPORTER

On Monday, Oct. 15, the Dalai Lama participated in a whole-day forum, in which he shared the stage with a diverse group of experts. The event, titled "Global Systems 2.0," focused on global issues, such as world hunger, climate change, and global health. The day consisted of two panels: one in the morning titled "Ethics, Economics, and Environment," and one in the afternoon titled "Peace, Governance, and Diminishing Resources."

Each panelist had 10 minutes to present his or her area of specialty before listening to the Dalai Lama's response. Panelists included James Orbinski (current international president of Doctors without Borders and Nobel Peace Prize recipient), several MIT professors, and Jonathan Foley (director of the Institute on the Environment at the University of Minnesota).

Kerry Emanuel, a professor of atmospheric science at MIT, started the day with a presentation on the environment in the morning panel, "Confronting Global Climate Change." Rebecca Henderson, former- often face. ly a Sloan School professor at MIT, followed by talking about the economics of reducing fossil fuels, while Penny Chisholm, a professor of environmental studies at MIT, presented on ways to decrease the amount of carbon dioxide in the atmosphere through geoengineering.

of our own planet. This is our home," said

Emanuel's presentation. "If something happens to it, there isn't a planet we can move

Several times during the event, the speakers incorporated humor into their presentations, drawing the Dalai Lama and the crowd into laughter. Each speaker in the afternoon jokingly self-identified themselves in two words based on their research. Ion Foley called himself "Doctor Happy," James Orbinski "Doctor Reality," Zeynep Ton "Doctor Jobs," and John Sterman "Doc-

Foley began the afternoon panel presentations with facts surrounding the global food supply.

"If you want to solve climate change, you have to think about food first," said Foley. "We have to solve all of these problems at the same time."

In his presentation, James Orbinski emphasized the widening gap between the privileged and the poor, pointing to the water insecurity, pollution, infectious diseases, and war that third-world countries

Zeynep Ton, an assistant professor at Sloan, studied the plight of retail workers in the U.S. and how their job dissatisfaction negatively affected not only their own happiness, but also the companies' profits.

"We are our identified by our work," said Ton. "More than 900 million people in this significance of creating fulfilling jobs, as they give dignity and meaning to lives.

The last speaker of the day, John Sterman ("Doctor Doom"), involved the Dalai Lama in order to help him make his point about the unsustainability of our current use of the planet. Sterman asked the Dalai Lama to fold a piece of paper in half, and then to fold it 40 more times. According to Sterman, if folded 40 more times, the width of the paper would be wider than that of the Earth.

"Anything that doubles in a fixed amount of time gets big very fast," he emphasized. He stated that the underlying source of all the issues discussed at the forum was growth, concluding on a note of optimism that solutions exist if everyone were to play

"The speakers did an excellent job presenting simple, intuitive ideas that helped me to see interesting new perspectives on various global issues," said Alex J. Zhu '16, who attended the afternoon panel.

At the end of the presentations, Tenzin Priyadarshi, founding director of the Center at MIT, gave the concluding remarks, which aimed to encourage the audience to act upon the knowledge they gained through

"[The Dalai Lama] struck me as a wise and compassionate person," said Zhu. "It wasn't just his title or his robes that gave me these impressions - his responses to the questions posed to him, his hopes of unity through acceptance of secular ethics, as "We have the responsibility to take care world have bad jobs." She highlighted the well as his joviality and humble nature led

TUESDAY

Buddhism and meditation

By Janelle Mansfield ASSOCIATE NEWS EDITOR

On Tuesday, the Dalai Lama spoke about Buddhism in the modern world. In his talk titled "Stages of Meditation: Buddhism for the 21st Century," His Holiness explained the basic principles of Buddhism and called for respect for all

The Dalai Lama gave the talk in celebration of the 10th anniversary of MIT's Prajnopaya chapter. Prajnopaya, which is Sanskrit for wisdom and compassion, is an organization that encourages the study of Buddhism and humanitarian efforts. The lecture was based on the Buddhist text "Stages of Meditation," written by Indian yogi scholar Acharya Kamalashila in the eighth century.

After introductory performances by Boston vocal group Blue Heron and violinist Adrian Anantawan, the Dalai Lama was welcomed to the very crowded Kresge Auditorium by MIT's Buddhist chaplain, the Venerable Tenzin Privadarshi.

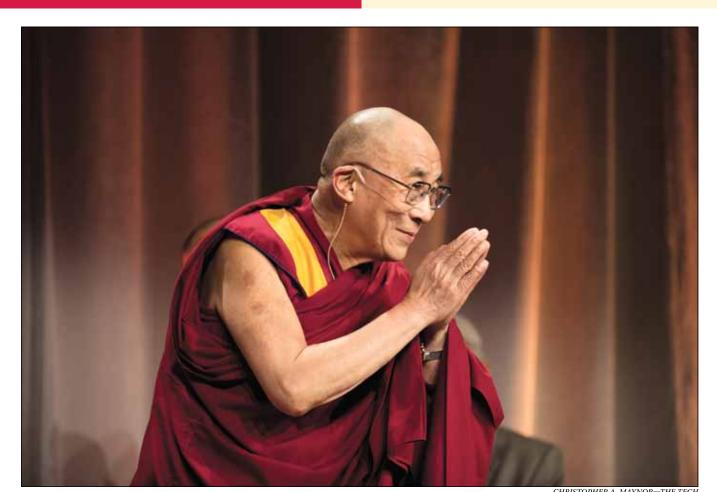
Accompanied by several monks, His Holiness took the stage. The stage at Kresge featured a raised platform, furnished with a coffee table and a couch, several cushions for the monks to sit on, and a tapestry hanging in the background. He amused the crowd by accepting and putting on an MIT baseball hat, which he later compared to a visor he had brought with him.

He began by speaking about the importance of religious tolerance, saying that "religious faith must come from with in ... it is up to the individual" to decide and sharing stories of others attempting to convert him to their religion. "You must have faith in your own beliefs and respect for others' [beliefs]," he said.

The Dalai Lama also gave a brief overview of the principles of Buddhism. He explained that Buddhists believe suffering is caused by a misconception of reality that leads to unrealistic expectations. According to the teachings of Buddhism, people focus too much on external conditions and not the experiences themselves. The antidote to suffering is to "cultivate wisdom" and attempt to "understand the ultimate nature of reality," said the Dalai

Another key idea in Buddhism the Dalai Lama mentioned is the idea of opposing forces that cannot coexist — if we wish to decrease one force, we can do so by increasing the other. He gave examples of ignorance and wisdom; if we gain wisdom, we will stop being ignorant. The Dalai Lama also applied this idea to the forces of anger and kindness.

The Dalai Lama peppered his talk with anecdotes of his travels and insights he had gained from talking to people around the world. He was an incredibly engaging speaker, keeping the audience entertained with his great enthusiasm and good nature.



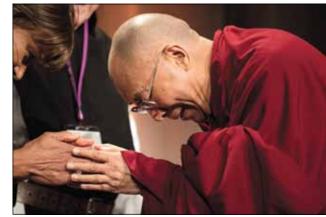
The Dalai Lama gave a talk hosted by The Dalai Lama Center for Ethics and Transformative Values titled "Beyond Religion: Ethics, Values, and Wellbeing" at the Boston Marriott Copley Place last Sunday.



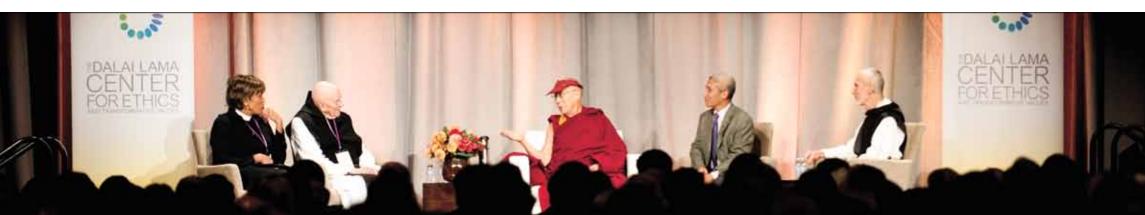
James Taylor, five-time Grammy Award-winning musician, made a special appearance last Sunday at the Dalai Lama's talk at the Boston



Audience members flocked to vendors selling Buddhist items at the Boston Marriott Copley Place after the talk concluded last Sunday afternoon.



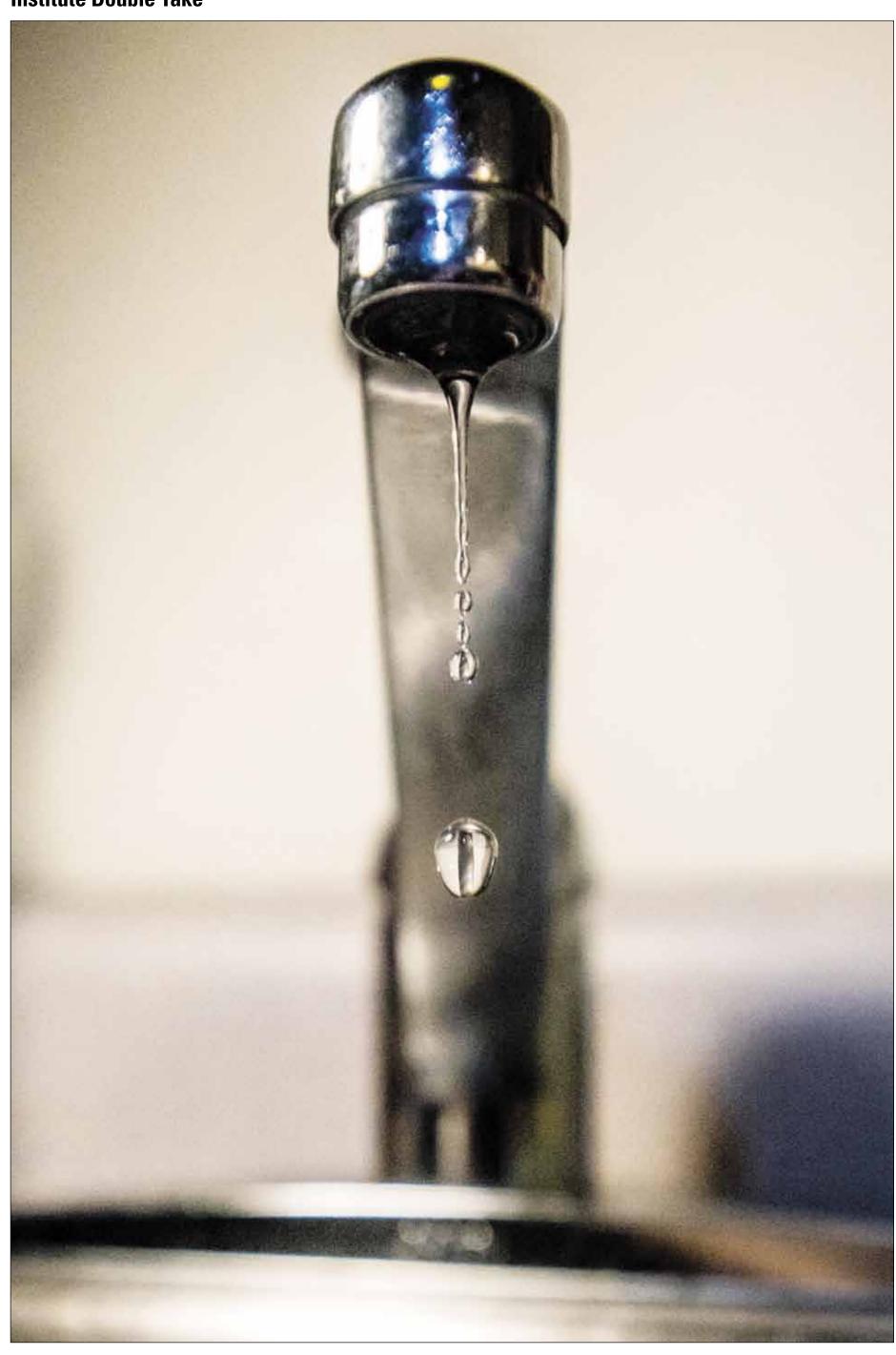
CHRISTOPHER A. MAYNOR—THE TECH The events were hosted by the Dalai Lama Center for Ethics and Transformative Values.



The Dalai Lama speaks with a panel including Father Thomas Keating and Brother David Steindle-Rast to a large crowd on Sunday.

12 THE TECH FRIDAY, OCTOBER 19, 2012

Institute Double Take



By James SunA water drop, dripping from a dorm faucet, appears frozen in space by using a fast shutter speed.

Aperture: f/4.5

Exposure Time: 1/4000 sec.

Sensitivity: ISO 12,800

35mm Equivalent Focal Length: 35 mm

Old plan 'fell short' MIT faculty say

Kendall plan, from Page 1

the Charles River, Main Street and Ames Street, with ready access to the MBTA Red Line, representing an extremely precious re-

The planning and development process affecting this part of campus has become intertwined with MIT's commercial real estate investment goals. ...

[F]inancial return should not be the principal criterion of value creation and success for this area of campus. ...

The current rezoning plan (as outlined by MITIMCo) for development of the Kendall Square area falls short of the aspirations described above."

But "I didn't read it that way," says Marsh. Marsh sees a lot of alignment between the task force's recommendations and what MITIMCo has been working on. He cites the importance of an east campus gateway that would mirror the prominence of 77 Massachusetts Avenue, as well as the desire for ground-floor retail and amenities in new buildings. Both featured prominently in MITIMCO's original proposal from April, 2011, and are key points in the task force report.

Kochan thinks that MITIMCo has been doing the job it was "instructed to do," and said that MITIMCo staff are professionals who are well-equipped to execute the revised vision articulated by the task force.

Landmark confusion

There has been substantial confusion over the precise landmark status of buildings E38, E39, and E48: the MIT Press building, Rebecca's Café, and the Kendall clock tower building.

The executive director of the city's historical commission has expressed a desire to see those buildings preserved in their current form. But for them to become landmarks, the six-member commission would first have to vote to recommend them as landmarks, and then the nine-member City Council would have to vote to accept that recommendation.

The task force report says that the build-

ings have been designated as landmarks that must be preserved. That is wrong.

In fact, the negotiation on the landmark status of those buildings seems likely. Kochan said, "We're recommending that MIT and the representatives of the city sit down and look at a range of options for preserving and honoring the historical significance of Kendall Square. There are a variety of ways to do that that are not just limited to preserving the three buildings in question."

"I think we could be *really* creative," Kochan said. MIT could build "something that honors the history in a very interactive visual kind of way, with some of the physical artifacts of the old buildings. But do it in an MIT style, with educational materials, videos, interactive simulations of what Kendall Square used to look like and looks like today. I think that would be a way to achieve the objectives of historical preservation, but also demonstrate that it's an area on the move, has been on the move, and will be an important part of the future."

Of course, MIT has been looking at such options for some time. Discussions with the historical commission began in the summer of 2011, and Marsh has previously told the planning board he is trying to "make it work"

The text of the report seems to have caused some confusion. When Kaiser introduced the task force results at the faculty meeting, both he and Allen indicated the buildings were landmarks. But, according to Nathaniel W. Nickerson, director of communications at MIT, both the provost and the task force members understood on Wednesday that the buildings had not been designated as landmarks.

A question of timing

At the faculty meeting, Professor Richard de Neufville '60 (ESD, Civil Engineering) praised the report, but expressed concerns about the timing and sequencing of events.

de Neufville asked why MIT would resubmit its zoning proposal in advance of preparing a comprehensive plan. He sug-

gested there was no particular hurry to submit the zoning petition, and that the planning board would look more favorably upon an upzoning petition that includes features of interest to the city, such as graduate student housing.

Provost Kaiser replied that there was a window of opportunity which might not exist in future.

"With due respect, I would challenge that," de Neufville said. He suggested there was no particular reason why a zoning petition could not be filed later, and asked for specifics. Kaiser offered to speak with him offline, but did not reply with substance.

Kochan, the committee chair, told *The Tech* that there is a lot of energy on the city's side that supports acting now. The city manager, the planning board, and city staff have all been working to respond to MIT and have given feedback, he said. "They are interested in having us come back as soon as possible," he said.

Additionally, the city's Kendall-to-Central planing process (K2C2) is winding down, and the outside consultants who are assisting with the process, Goody, Clancy & Associates, are only available for a limited time

But to a certain extent, the city is expecting MIT's zoning petition because it has been told to expect it. It could certainly choose to proceed with the non-MIT-specific portions of the Kendall zoning in the interim. Zoning in Kendall Square is divided up into large units by property owner, and the city and the planning board had chosen to tackle MIT's zoning first, because its zoning unit had the most potential for development, and it had previously filed a zoning petition. But there is nothing about the process that requires MIT's unit to be handled first.

It is unclear how soon MIT might refile its zoning petition. Kochan said "I think it'll be ready to be filed soon," but Marsh seemed less certain. For Marsh, refiling the petition appeared to depend on the negotiations about the landmark status of the three buildings, but it is unclear when those discussions will reach a conclusion.

High points of the 2030 report

Findings

- 1. The affected real estate represents "an extremely precious resource."
- 2. Prior planning and development here have been "intertwined with MIT's commercial real estate investment goals," and have typically taken place a significant distance from main campus.
- 3. Financial return should not be the "principal criterion" for this area.
- 4. The previous zoning plan "falls short of the aspirations" in points 1–3.
- MIT needs to carefully consider additional housing for the community, especially graduate students. Such housing could be on-campus or off-campus.
 - 6. Traffic impact needs to be considered.
- 7. The Cambridge Historical Commission has expressed an interest in designating E38, E39, and E48 as landmarks.
- 8. The City Manager and the Planning Board have asked to see MIT's petition soon.

Conclusions

- 1. A comprehensive urban design plan should be completed, after the petition is approved but before anything is built.
- 2. The Task Force should participate directly in the planning process.
- 3. The plan should be guided by several design principles, listed below:

Design Principles

- 1. There must be an east gateway to MIT worthy of MIT and its aspirations, missions, and excellence.
- 2. The new buildings must "convey a campus feeling"; their ground floors should be reserved for inviting academic, student life, or retail uses and should not be gated or private.
- 3. Commercial space in Kendall Square should extend the campus, not the other way around.
- 4. Commercial development should generate an appropriate financial return, but perhaps not the same return as properties further from campus.
- 5. Commercial development should only happen in the context of the comprehensive design plan.

— John A. Hawkinson



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FRIDAY, OCTOBER 19, 2012

Woman reports sexual assault at MIT

A woman reported to police yesterday that she had been sexually assaulted on the MIT campus on Oct. 14. The call was reported to other police before reaching campus police, but the incident is currently under investigation by the MIT Police.

MIT offers a number of resources on sexual assault education. The Violence Prevention and Response team, along with a variety of student groups, runs a number of workshops and educational programs throughout the school year designed to teach assault prevention and awareness, and how to support a friend who has survived sexual assault. More information on these sessions and how to get involved can be found online at http://medweb. mit.edu/wellness/programs/ violence_prevention.html.

Campus police recommends programming your cell phone with the MIT Police emergency number (617-253-1212), and encourages students to call it if they ever feel they are in an uncomfortable situation. Take note of blue lights on campus, and dial 100 from any campus telephone to reach the police. Most of all, stay aware of your surroundings!

—Jessica J. Pourian



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Aaron Swartz asks court to suppress data from MITDoes MIT follow policy (requiring a court order) when releasing network history information?

By John A. Hawkinson STAFF REPORTER

MIT released details and logs of Aaron Swartz's use of the MIT network to law enforcement without a warrant or subpoena, according to court documents filed on Friday, Oct. 5.

The release violates MIT's written policy on network information disclosure, Swartz's filings say, but MIT Information Services & Technology disagrees. Swartz's motion asserts MIT's policy permits disclosure "only" in the face of a "court order or valid subpoena," but the policy does not contain the word "only."

The details of MIT's disclosure of this information are important to students because the same policies govern the release of information for other kinds of activities, such as illegal downloading and filesharing.

MIT has defended its actions as necessary to "protect its network," but has refused to explain that comment further.

Background

Swartz is accused of downloading millions of documents from ISTOR, an online journal archive, by hiding a computer in a network closet in the Building 16 basement. He has pleaded not guilty to 13 counts of federal law violations, and a jury trial is scheduled for Feb. 4, 2013.

On Jan. 4, 2011, the day after MIT was notified about Swartz's third episode of JSTOR downloads, "the Secret Service assumed control of the investigation," according to the

MIT provided the Secret Service with "network flow data" and DHCP log information for Swartz from the prior 18 days, and packet capture of traffic to and from Swartz's hidden laptop.

Network flow data is collected by the MIT network in an automated fashion, and consists of timestamped records summarizing source and destination Internet addresses, timestamps, number of bytes and packets, and network protocol. That information is sufficient to identify the kind of network use associated with a computer on the network. The information can translate to a list of the websites a person visits, whether they are engaging in peer-to-peer downloading through means such as BitTorrent, whether a computer is running a webserver, and similar activities.

DHCP log data, on the other hand, identifies the hardware address of a particular computer, and records the Internet IP address that the computer is automatically assigned by the network.

Packet capture data is actual real copies of the information sent over the network; it is not summarized or aggregated like network flow data, but it is not collected automatically and requires a lot of space to store. It's not practical for MIT to collect packet capture data for more than a handful of computers on the network: but network flow data is much smaller and more manageable and can be collected for all machines on the network.

Because this data is so sensitive, MIT does not disclose it lightly. IS&T has a written policy that covers DHCP data, but does not explicitly mention network flow data or packet capture data.

The filing that provided this information was a 21-page motion to suppress MIT's disclosures. It was the first of five motions to suppress evidence filed on Oct. 5. But it is not typical for courts to suppress DHCP logs and similar network information.

Martin G. Weinberg, Swartz's attorney, wrote in an email that while some of the motions raise traditional Fourth Amendment challenges, "certain of the motions raise novel" Fourth Amendment challenges with respect to "new technologies."

MIT's explanation

When asked about MIT's disclosure of network data without a subpoena, Marilyn T. Smith, head of IS&T told *The Tech* in a prepared statement last week that "MIT acted responsibly in unique circumstances to protect its network and ensure the ability of members of the MIT community to access important scientific journals."

Smith was unable to explain how MIT's decision not to wait for a subpoena before disclosing the information "protected" the MIT network, or affected "ability to access" scientific journals. Smith repeatedly declined to add more information, saying that MIT does not comment on matters related to active criminal proceedings.

Smith did say that MIT "has not changed its historical practice around the disclosure of personal information to law enforcement."

But how might MIT's actions here differ if the party was a student engaged in illegal file sharing? If MIT's choice to disclose Swartz's network usage without a warrant is consistent with the policy, then disclosure of a student's filesharing activities would seem to be as well.

Did Swartz break in?

The indictments against Swartz charge him with "break[ing] into a restricted-access computer wiring closet" in Building 16.

But in Swartz's second motion to suppress evidence filed on Oct. 5, Swartz claimed not to be a trespasser, and claimed not to have forfeited his expectation of privacy in his laptop because he did not "abandon" the laptop in a legal sense.

Swartz's motion describes the network closet as within a network of hallways which are used by people to travel between MIT buildings.

"There were no signs ordering people to keep out, ... and the door to the data room opened readily with a 'quick jerk," the motion

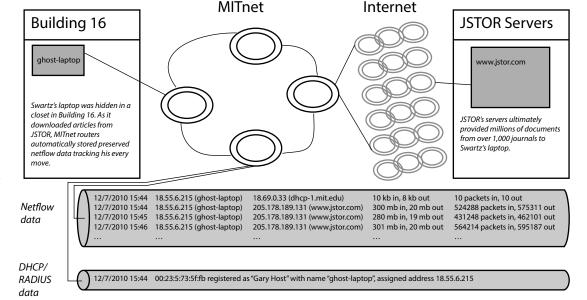
Swartz also argues that to find abandonment, "there must be 'clear and unequivocal evidence" that he intended to abandon the laptop. The fact that law enforcement expected him to return - and that they set up video surveillance in anticipation of that — means that he did not abandon the laptop, the defense claims.

History

Swartz's saga with MIT and JS-TOR began in September 2010. He began mass downloading JSTOR documents on or around Sept. 24, and JSTOR first blocked his access on Sept. 26. He resumed his downloading on Oct. 2 and was blocked again on Oct. 9. Another episode occurred on Dec. 26, and again on Jan. 4. He was spotted and apprehended on Jan. 6.

Swartz was originally indicted on four counts on July 11, 2011. The indictment was superceded on Sept. 12, 2012, and the revised indictment is for thirteen counts. He appeared in court and pleaded not guilty on Sept. 24, 2012.

His trial is currently set for Feb. 4, 2013 in United States Federal Court before Judge Nathaniel M. Gorton at the Moakley Courthouse on the Boston waterfront.



Note: This data is dramatized. It does not reflect the actual data associated with Swartz's network usage, nor is the data format precisely that collected. It is an approximation intended to give an understanding of the kinds of data recorded and preserved.

JOHN A. HAWKINSON



FRIDAY, OCTOBER 19, 2012

THE TECH 17

EdX and Cengage collaborate

Over 370,000 registered on edX now have access to additional Cengage content

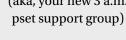
EdX and Cengage, from Page 1

in more than one course, bringing course enrollments up to over 500,000. "With the expansion of our course offerings in Spring 2013 to between 20 and 30 courses, enrollments will continue their rapid climb and we expect to hit the million course enrollment mark early in 2013," O'Connell said in an email to *The Tech*.

EdX declined to provide a breakdown of enrollments by course.

The eight courses on edX represent just a fraction of the massive open online classes (MOOCs) that have been cropping up in the past couple of years, including 18 from Udacity and 198 from Coursera, two platforms that grew out of projects at Stanford. Both of HarvardX's classes started on Monday, the same day the University of Texas system announced that it was joining edX. In addition, a new course from the University of California, Berkeley, which joined in July, has appeared on the edX website. The course is called Foundations of Computer Graphics, to begin on Nov. 5, the third class from BerkeleyX, and the sixth class in computer science or electrical engineering.

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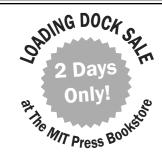




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NFL Predictions, from Page 20

a nail-biter.

Prediction: 27-23 Giants

Baltimore Ravens @ Houston

Sunday, Oct. 21, 1 p.m.

The Ravens' defense took a huge hit this week against the Cowboys. They lost their leader,



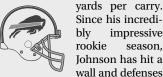
Ray Lewis, for the season and they also lost their best cornerback, Lardarius Webb. This could prove

disastrous to their Super Bowl aspirations, as their defense was already looking uncharacteristically shaky this year. Webb has not allowed a touchdown in over two seasons, and he was developing into one of the best corners in the NFL. Houston will look to take advantage of Webb's and Lewis' injuries, especially after their humiliating loss on Monday Night Football to the Packers. Expect Houston to pound the Baltimore defense early on the ground and regain their momentum from early in the season.

Prediction: 31-20 Texans

Tennessee Titans @ Buffalo Bills Sunday, Oct. 21, 1 p.m.

This game should be a shootout. Both teams allow over 30 points on average and the Bills' rush defense has been awful this season, allowing almost 200 yards a game. Chris Johnson has continued to be incredibly inconsistent this season, averaging just over 3



Since his incrediimpressive season, Johnson has hit a wall and defenses

have been able to contain his speed. Depending on the type of outing he has, Tennessee could literally run away with it. Buffalo also has a very good running game, especially with C.J. Spiller, but the Titans' rush defense is quite porous. The Bills take this

Prediction: 27-20 Bills

Cleveland Browns @ Indianapolis Colts

Sunday, Oct. 21, 1 p.m.

In a battle of rookie QBs, the Colts definitely have the advantage. Andrew Luck has shown po-



tential and poise early in his NFL career. Brandon Weeden has also improved since his first few starts,

and he earned his first NFL win last week by shredding the Bengals defense. The Colts have played well against the pass this season, and the Browns do not have any running game to speak of. Trent Richardson has been disappointing, and he will really need to step up if the Browns want a chance at a win. The Colts should be able to move the ball through the air, as the Browns allow almost 300 yards passing per

Prediction: 24-16 Colts

New York Jets @ New England **Patriots**

Sunday, Oct. 21, 4:25 p.m.

This is a key game in the AFC East, especially due to the Patriots' weak start. They had trouble run-



ning the ball last week against the Seahawks and that definitely contributed their loss. The Pa-

triots currently have the top ranked offense in the NFL, mostly due to their great balance. If the Jets can take away New England's running game, they can force their offense to become one-dimensional. Mark Sanchez played well enough last week to stave off critics calling for Tim Tebow, but now he has a tough matchup against a division rival. All eyes will be on him this week and he must control the game if the Jets hope to shock

Prediction: 38-20 Patriots

Jacksonville Jaguars @ Oakland Raiders

Sunday, Oct. 21, 4:25 p.m.

Even in their loss last week, Oakland did a good job stopping Atlanta's running attack. They held the Falcons to three yards per carry, and they hope to do the same this week against the Jaguars. If the Raiders can contain Maurice Jones-Drew, the Jaguars star running back, they will force Blaine Gabbert to beat them through the air, which is exactly what they want. Gabbert leads the league's worst passing game, aver-



aging only 142 yards per game. Jacksonville lacks receiving weapons, once their running game is

slowed, they are one of the worst offensive teams in the NFL. Even coming off a bye week, the Jags will not be able to implement a good enough game plan to earn their second win.

Prediction: 13-7 Raiders

Pittsburgh Steelers @ Cincinnati Bengals

Sunday, Oct. 21, 8:20 p.m.

The Pittsburgh Steelers are banged up. Troy Polamalu, La-Marr Woodley and Rashard Men-



denhall head an injury report that is one of the largest in the league. If that weren't bad enough, they also

lost RB Isaac Redman in their loss to the Titans. The once great defense is just a shell of its former self, but they may not need their full strength against Cincinnati this week. The Bengals come off an embarrassing loss to Cleveland. Although Andy Dalton played well, he made too many mistakes, throwing three interceptions. He needs to cut down on the turnovers and keep the Bengals' defense off the field. The defense is one of the team's biggest weaknesses, so the longer the explosive offense is on the field, the better.

Prediction: 24-21 Steelers

Detroit Lions @ Chicago Bears Sunday, Oct. 21, 8:35 p.m.

Detroit won last week, but it wasn't pretty. They managed to orchestrate a fourth quarter



comeback against a turnover-prone Eagles team, but they still didn't compare to their play from last sea-

son. The offense stagnates at times, and at one point in the second half, Matt Stafford had 7 straight incompletions. Their defensive line played very well, getting a lot of pressure on Michael Vick, especially in the overtime period. Chicago's run defense has been amazing this season, only allowing 66 yards per game. Although the Lions are not a running team, the sheer intimidation factor will force them into passing much more than they want to. Stafford has proven to make a lot of mistakes when he is forced to throw too much throughout his career and the Bears are great at forcing these exact types of mistakes. As long as Jay Cutler can manage the game (which he should be able to, especially coming off a bye week), the Bears should take the game.

Prediction: 31-20 Bears

Do you wish your sport was covered?

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Women's soccer victorious

Team defeats nationally ranked Wheaton College

By Charlotte Brackett

The MIT women's soccer team edged out No. 7 nationally ranked Wheaton, 2-1, on Tuesday afternoon, ending the Lyons' undefeated season. The Engineers are now 11-3-1 for the season and 6-1 in conference play, while Wheaton dipped to 13-1-2 and 6-1 in NEWMAC play. Michaelann Rodriguez '14 scored the game-winning goal 33 minutes into the game.

Ten minutes into the first half,

Leslie A. Meyer '13 scored the first goal of the afternoon, and her first this season, when she received a cross from Rachel A. Dias Carlson '14. Exactly ten minutes later, Julia Cipriano put Wheaton on the board, tying the game at 1-1. In the 33rd minute, Rodriguez lobbed the ball past goalkeeper following a pass from Priyanka Gaur '16, giving the Engineers a 2-1 lead over the Lyons going into the second period.

With a one goal advantage over Wheaton, MIT fought to keep ahead for the remaining 45 minutes. MIT outshot the Lyons 5-3 in the second half, but none of its shots needed to be saved while keeper Meghan S. Wright '13 had to save two of Wheaton's shots. The clock ran out with neither team scoring any more goals, leaving MIT with a 2-1 victory over the Lyons.

MIT will host its final home game of the 2012 season on Saturday, Oct. 20, at 4:00 p.m., when NEWMAC foe Coast Guard comes to town. This coincides with Senior Day, where the eight graduating seniors will be honored.



Know something important we should write about?

(We probably don't know about it.)

Let us know.

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Cycling takes on 45 degree banking, wins Nationals

Seven MIT team members earned the Division II title at Track Nationals in Texas

By Christina Birch TEAM REPRESENTATIVE

Seven MIT Cycling members descended on the 45-degree banked 250-meter wooden velodrome in Frisco, TX, for the USA Cycling Collegiate Track National Championships on September 20 through 22. Their mission? Gold medals, Stars and Bars jerseys, and the hotly contested DII National

Championship title. Track cycling is one of the most dynamic disciplines of cycling with events that challenge athletes not only to overpower their opponents, but also to outwit them. Cyclists ride counter-clockwise on fixed gear bicycles without brakes on a 250m or 333m oval "track" or "velodrome" with banking up to

55 degrees. "Apart from racing, just riding on the track is flat-out fun!" says Spencer Daniel Schaber G. "The 45 degree banking is daunting at first because you have to ride 17 mph just to stay on it, but after getting the hang of it, it's like a roller coaster."

Katherine A. Wymbs '14 was pure enthusiasm at the event: "Nothing quite compares to diving into the sprinter's lane from high on the banking like a lightning bolt into the Flying 200 [meter time trial] and maintaining speed around the [final] turns!"

The Collegiate Track National Championships consists of seven events across three days: some events are performed solo (long and short individual time trials called

"pursuits," and matched sprints), some raced as a team (team pursuits and the co-ed sprint), and some against all other athletes simultaneously (points race and scratch race).

With a record turnout of 120 riders, the MIT team had to rely on each other to ensure teammates were ready for their races. Schaber says he "repeatedly swapped aerodynamic wheels and handlebars, changing chain rings and cogs to get the optimal gear ratio for each event."

Notably, Christina Marie Birch G clocked 4:03 for a 3-kilometer individual pursuit, earning a fourth place medal. Michael Lane Garrett G earned 7th in the Flying 200-meter time trial by completing his sprint in under 12 seconds. Zachary A. LaBry G and Garrett placed 8th and 10th respectively in the men's 4-kilometer individual pursuit, only a second apart with times of 4:58 and

The women's team, comprised of Birch and first-year track cyclists Wymbs and Edrie Buenaventura Ortega G, finished the 3-kilometer team pursuit first among teams fielding only 3 out of 4 possible riders. The men's team included Garrett, LaBry, Schaber, and Zachary Seth Hartwig G, and finished 10th in the men's 4-kilometer version of the event.

Each day the team arrived at the track before sunrise, warmed up under stadium lights, raced until 3 p.m. in increasingly hot conditions, only occasionally with a 1-2



The victors sport their Stars and Bars National Championship jerseys and gold medals while leaning against the 44.6-degree velodrome racing surface.

hour break for lunch and air conditioning, and then returned to the track at 5:00 p.m. for racing well past nightfall. Wymbs confessed MIT's secret for success: "I think that one of the reasons MIT did so well as a team was that we have more experience than other teams at operating on less than eight hours of sleep."

Garrett, by far the most experienced track cyclist of the troupe, noted that camaraderie was at the heart of the MIT victory. "It was great to have seven riders who gave each race 100% and then spent the rest of the time supporting their teammates truly an MIT team effort."

USA Cycling will remember MIT's goldwinning performance on the track as well as Ortega's breathtaking rendition of the National Anthem on the final day of competition. Ortega is a newcomer to track cycling but already understands many of its nuances: "It takes more than having the strongest riders to win. It takes patience, control, and awareness to take the gold."

Women's volleyball team beats Babson on Tuesday

Leonard, Spielbauer lead team to victory, bring overall record to 24-3, 6-1 NEWMAC

By Paul Dill

TEAM COACH

MIT received 25 combined kills from senior Trinity P. Leonard and first-year Ada V. Taylor and 43 assists from senior Alyssa L. Rothman en route to a 3-1 victory over host Babson College in a NEWMAC women's volleyball match at Babson College on Tuesday night.

With the win, the Engineers (24-3 overall, 6-1 NEWMAC) remained in the hunt for the regular season conference title, tied for second place with Springfield with a key match remaining against first-place Wellesley. Meanwhile, fifth-place Babson (18-6 overall, 3-4 NEWMAC) will likely need to win each of its final three league matches to have a

Friday, October 19

Zesiger Center Pool

Sunday, October 21

Field

Charles River

Charles River

Center Pool

Saturday, October 20

Football vs. Salve Regina University

Men's Fencing vs. Alumni Meet

UPCOMING HOME EVENTS

Women's Fencing vs. Alumni Meet 1:00 p.m., DuPont Athletic Center

Women's Tennis vs. Smith College 1:00 p.m., DuPont Tennis Courts Men's Soccer vs. U.S. Coast Guard Academy 1:00 p.m., Roberts Field

Men's Water Polo vs. Washington and Jefferson College 2:15 p.m.,

Women's Soccer vs. U.S. Coast Guard Academy 4:00 p.m., Roberts

Men's Heavyweight Crew vs. Head of the Charles 2:55 p.m., Charles

Men's Lightweight Crew vs. Head of the Charles 4:38 p.m., Charles

Women's Openweight Crew vs. Head of the Charles

Women's Lightweight Crew vs. Head of the Charles

Men's Water Polo vs. Division III Championships

chance at securing its first home seed in the conference tournament since 1993.

Leonard led MIT with 13 kills in the victory, while Taylor hit .450 with 12 kills and only 3 errors. Senior libero Katie K. Spielbauer registered 29 digs for the Engineers, Lindsey M. Wang '16 chipped in with 11 digs, and Tatiana Berger '14 added nine kills. MIT hit .236 as a unit, marking just the fourth time this season that Babson allowed an opponent to hit better than .200 in a match.

The teams traded the first two sets, with MIT taking the opener 25-16 and Babson answering with a 25-22 triumph in the second. The pivotal third set then saw the Engineers rally from a four-point deficit with an 8-1 run to go up 24-21, only to have Babson fight

7:00 p.m., Roberts Field

1:00 p.m., DuPont Athletic Center

off three consecutive set points to even the score at 24-24. A Babson attack error then put the Engineers back up by one, and Rachel A. Hunt '14 followed with a kill down the right sideline off a Roth-

man set to clinch the frame, 26-24. After exchanging 3-0 runs to

start the fourth and final set, neither squad led by more than one until a 6-0 burst by MIT turned a 10-9 deficit into a 15-10 advan-

tage midway through. The visitors' lead would balloon to as many as seven on three different occasions down the stretch before junior Kristine A. Bunker's kill finished off the set and the match, 25-18.

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Joseph M. Brown

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Monday, October 22

Men's Soccer vs. Elms College

7:00 p.m., Roberts Field

3:08 p.m.,

4:45 p.m.,

TBA, Zesiger

National Football League predictions: Week 7

Packers will defeat Rams, Panthers will fall to Cowboys, Pats to dominate Jets

By J. Austin Osborne

Arizona Cardinals @ Minnesota

Sunday, Oct. 21, 1 p.m. After their hot start this season, Arizona has started to slip the last couple of weeks, losing



both games. After their thrilling loss to Buffalo (which also cost them starting QB Kevin Kolb),

they look to steal a victory in Minnesota with John Skelton as quarterback. Despite their 4-2 record, Arizona has one of the worst offenses in the NFL. They win games with their stifling defense and the pressure they put on the quarterback. Adrian Peterson has returned in impressive form for the Vikes after his major knee injury last season, and has rushed for almost 500 yards. If Christian Ponder can hold onto the ball and avoid making costly mistakes, the Vikings should be able to control the game and win a close one.

Prediction: 23-17 Vikings

Dallas Cowboys @ Carolina and they will control the game.

Sunday, Oct. 21, 1 p.m. Dallas came up just short this

week against the Ravens as Dez Bryant, despite his otherwise



dropped a two point conversion to tie the game. Tony Romo was good in the loss, especially at the

end of the game. The Cowboy running game, however, was the real star, rushing for over 200 yards against the usually tough Baltimore defense. However, they received some bad news, as Demarco Murray will be out for their game against the Panthers. Luckily, Felix Jones and Philip Tanner are capable enough to shoulder the load this week. Carolina has underachieved this season. After entering the year as a sleeper pick by many, Cam Newton has been unimpressive and their defense hasn't been able to hold teams. Even without Murray, the Cowboys should be able to make some progress running the ball

Prediction: 27-14 Cowboys

New Orleans Saints @ Tampa **Bay Buccaneers**

Sunday, Oct. 21, 1 p.m.

The Saints got their first win two weeks ago against the Chargers, and there is still no doubt



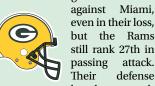
is racking up the stats once again. New Orleans' main problem, however, is their abysmal defense. They've allowed at least 24 points in every game, and they've been forced to outscore teams to win (which hasn't worked out well). Lucky for them, Tampa Bay has one of the worst pass defenses in the league, and Brees will be able to pick through their secondary with ease. Bucs rookie RB Doug Martin should have a great game against this weak run defense, but it won't be enough to keep up.

Prediction: 34-20 Saints

Green Bay Packers @ St. Louis

Sunday, Oct. 21, 1 p.m.

St. Louis desperately needs consistent play from Sam Bradford. He was good last week



but the Rams still rank 27th in passing attack. defense has been much better than expected so far, but

they will need an outstanding effort this week against a rejuvenated Packers team. Green Bay had a lethargic season until they traveled to Houston last week. With a strong performance by Aaron Rodgers, they showed why they were almost undefeated last season. He threw six touchdowns and looked sharper than he has all season picking apart the Texans' defense. This may be the game where he comes out of his slump. The defense was also impressive, only allowing 90 yards to the best rushing attack in the league. The Packers are in the midst of a favorable stretch in their schedule,

so they should be getting back on track.

Prediction: 27-10 Packers

Washington Redskins @ New **York Giants**

Sunday, Oct. 21, 1 p.m.

Robert Griffin has improved the Washington running game, and it really showed last week



with his 138-yard performance. defense Their will really need to step up this week, though, if they want to challenge

the Giants. The Redskins have the worst pass defense in the league and Eli Manning should feast on their secondary. Washington cannot match up with all of the receiving weapons the Giants have. The Giants come into this game brimming with confidence after thoroughly dominating the 49ers. NFC East games are always close, however, and the Giants are known to have trouble with running quarterbacks. Giants win in

NFL Predictions, Page 18

Friday's Beaver Madness to kick off basketball season

By Ethan A. Klein

The days are getting a bit chillier, which means basketball season is heating up. This Friday's Beaver Madness marks the ceremonial kick-off to the start of the men's and women's basketball seasons at MIT, two campaigns that should be jam-packed with excitement.

The women's squad boasts a

great mix of veteran leadership this season along with a highly prized recruiting class. The Engineers notched key wins over WPI and Springfield last season, as well as a double-overtime thriller versus Wheaton College. During their trip to California, they womped MIT's cross-country academic rival, CalTech, 100-26. Expect to see some even bigger wins this year from the women's squad.

The men's team is coming off an incredible 29-2 season, which saw them advance all the way to the Final Four in Salem, Virginia where they were one game away from the National Championship. The Engineers were ranked as high as #3 in the country last year, and are #1 in the national preseason rankings. This year,

they are returning almost all of their firepower while adding one of the top recruiting classes in the nation. Having advanced to the NCAA Tournament for the past four years, the Engineers have established themselves as a basketball powerhouse.

Needless to say, it is a great time to be a Beaver Basketball fan. In fact, it's a great time to be a Beaver sports fan in general, with numerous teams dominating their respective sports. This Friday night at 7 p.m., the MIT Football team takes on Salve Regina in their last home game of the season. Immediately following the game at 10 p.m. in Rockwell Cage, Beaver Madness promises highflying slam dunks, a faculty showdown, and prizes for fans.



Michael L. Garrett G, Spencer D. Schaber G, Zachary A. LaBry G, and Zachary S. Hartwig (right to left), representing MIT's cycling team, rode in tight formation during the team pursuit portion of the Cycling Track National Championship. MIT won the Division II championship. The event was held September 20-22 in Frisco, TX.



EMILY KELLISON-LINN—THE TECH

Madeline L. Wharton '14 combats her opponents in Tuesday's field hockey game against Wheaton College. MIT won 11-2.

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